

REMARKS

Applicant has carefully reviewed the non-final Office Action of May 16, 2007, and notes with appreciation the Examiner's withdrawal of the anticipation rejections to the claims requiring microspheres based on U.S. Patent No. 4,889,764 to Chenoweth et al. Applicant further traverses the rejections of all pending claims without amendment.

Claims 1, 3-7, 9-17, 20-21, 24-25, 37-43, and 47-48 stand rejected as anticipated by, or in the alternative, obvious in view of the above-referenced patent to Chenoweth et al. Claim 1 reads on a conformable surfacing veil comprising and a plurality of structural fibers and a plurality of bicomponent fibers coupled to the plurality of structural fibers. Each of the plurality of bicomponent fibers has a core substantially surrounded by an outer polymer annulus. According to this claim, the plurality of structural fibers comprise one or more irregularly shaped fibers, said one or more irregularly shaped fibers having a melting point significantly higher than said outer polymer annulus. Claim 39 more specifically requires that one or more irregularly shaped fibers has a melting point at least 100 degrees Fahrenheit higher than a melting point said outer polymer annulus, and claim 47 still more specifically requires that the melting point of the outer polymer annulus is at least 100 degrees Fahrenheit lower than a melting point of the core and a melting point of the plurality of structural fibers.

Applicant previously traversed these rejections on the ground that Chenoweth et al. fails to mention the melting point of the synthetic fibers 14 relative to that of the sheath 20 of the bicomponent fibers 16. Therefore, it is simply impossible to know whether the limitation of these claims is met. The Examiner expressly agrees with this point of fact. See the Office Action of May

16, 2007, page 6, second paragraph, "Chenoweth et al. does not explicitly teach the claimed melting point of the irregularly shaped fibers being significantly higher than the outer polymer annulus." Thus, it cannot be the case that this reference expressly anticipates, or teaches the exact same invention of, claim 1.

Given the lack of any express teaching, a proper anticipation rejection can only be based on "inherency." Anticipation "by inherency" requires that the missing claim feature must necessarily be present in the reference. *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282, 54 USPQ2d 1673 (Fed. Cir. 2000) ("a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing feature is *necessarily present*") (emphasis added). Consequently, the mere probability or possibility that the claimed invention might result under certain circumstances is insufficient. *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269, 20 USPQ2d 1746 (Fed. Cir. 1991) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."). Moreover, as in all cases, the reference must be considered as a whole. See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 727 F.2d at 1550, 220 USPQ at 311 (Fed. Cir. 1983) ("The well established rule of law is that each prior art reference must be evaluated as an entirety").

In the instant situation, no substantial evidence or convincing line of reasoning explains why it is "necessarily" the case that the melting point of the synthetic fibers 14 is "substantially higher" than that of the sheath 20 of the bicomponent synthetic fibers 16 in Chenoweth et al. In contending otherwise, the Examiner states that this reference "teaches the importance that there be a significant difference between the melting point of the core 18 and the melting temperature of the sheath 20 and furthermore that the melting point of the sheath 20 be the lower of the two values" (Office Action of 5-16-07, p. 10, first

paragraph). Respectfully, this is irrelevant and not what the claims at issue require.

The Examiner continues, noting that Chenoweth et al. "discloses the formation of bonds 28 formed by the melting of the sheath." *Id.* Simply observing that the sheath 20 might melt and bond with the fibers 12, 14 at some point during processing does not necessarily mean that the melting point of the fibers 14 is "substantially higher." Indeed, Chenoweth et al. expressly teaches that the sheath 20 and fibers 14 may both comprise Dacron® polyester (see col. 4, line 56 and col. 5, lines 33-36). This suggests that the melting points would be substantially similar, rather than substantially disparate as required by claim 1.

In attempting to provide further support for the rejection made in the previous Office Action, the Examiner contends that "the Figures are evidence that their melting point would be higher than the melting point than the sheath of the bicomponent fibers." *Id.* However, claim 1 does not merely require that the irregular structural fibers "do not melt" while the sheath of the bicomponent fibers has melted (which is all the figures allegedly show). Rather, the claim requires that the melting point of the irregular fibers is "substantially higher" than that of the polymer annulus, let alone 100 degrees Fahrenheit higher. The figures of Chenoweth et al. do not provide any support for the finding that it is "necessarily" the case that the terms of the claims at issue are met, since it is "possible" that the fibers 12 have substantially the same melting point as the sheath 20, or that the fibers 12 have in fact melted (which is not synonymous with "disappeared"). Thus, Chenoweth et al. cannot possibly qualify as the requisite substantial evidence to support the rejections made based on anticipation by inherency.

The Examiner further explains that, in Chenoweth et al., "the materials disclosed for fibers 14 are aramids such as Kevlar® and Nomex®." According to

the Examiner, such materials "do not have a defined melting point." Accordingly, "having irregularly shaped fibers having a melting point significantly higher than the outer polymer annulus would be recognized in the invention of Chenoweth et al."

The difficulty with this position is twofold. First of all, the Examiner provides no evidence whatsoever to support the contention made that Kevlar® and Nomex® "do not have a defined melting point." If the Examiner possesses such evidence or a reference supporting this conclusion, it should be provided for consideration or else the rejection withdrawn. *In re Hoch*, 57 CCPA 1292, 428 F.2d 1341, 166 USPQ 406 (1970), ("[W]hen a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection."). Rather than supplying this evidence as requested, the Examiner contends "[t]he burden is upon Applicant to prove otherwise." Respectfully, statements by the Examiner unsupported by evidence in the record cannot shift the burden to Applicant to prove anything.

Secondly, the Examiner's conclusion is a *non sequitur*. If the Examiner is correct that Kevlar® and Nomex® "do not have a defined melting point," then these materials cannot qualify as the claimed irregular structural fibers of claim 1. This is because this claim expressly requires that the irregular fibers indeed have "a melting point." Similarly, independent claims 39 and 47 require structural fibers having a defined melting point. Accordingly, the inventions of these claims would not be "recognized in the invention of Chenoweth et al.," since this reference teaches either structural fibers that have no defined melting point (according to the Examiner) or a melting point that matches that of an included bi-component fiber (e.g., when both comprise Dacron® polyester).

Claims 8, 44-46, and 49-50 stand rejected as being directed to "obvious" inventions in view of the teachings of Chenoweth et al. in view of U.S. Patent No. 5,571,592 to McGregor et al. After repeatedly sustaining anticipation rejections of these claims, the Examiner now admits that Chenoweth et al. does not disclose or even remotely mention the claimed microspheres. Accordingly, citation is made to McGregor for a teaching of microspheres.

The difficulty with this position is that the references themselves expressly teach away from the combination. McGregor specifically states that "[t]he problem with . . . previous attempts to use microspheres with a binder material is that the binder materials tend to limit many desirable properties of thermal insulation" (col. 2, ll. 31-34). McGregor then goes on to discuss the various problems associated with the use of a binder, and the espouses a desire for "[t]he use of spheres alone or unadhered in thermal insulation" (col. 2, ll. 43-44) (emphasis added). In other words, the teaching of McGregor is for the use of microspheres without a binder.

In stark contrast, Chenoweth et al. is solely limited to an insulating material with fibers "which have been intimately combined with a thermosetting resin" (Abstract). This thermosetting resin "bonds the fiber matrix together" (col. 2, ll. 60-61) and thus serves as the binder. Indeed, Chenoweth et al. expressly states that it is "an object of the invention to provide a non-woven matrix of glass and homogeneous and bi-component synthetic fibers having a thermosetting resin dispersed therethrough" (col. 3, ll. 34-37) (emphasis added).

Summarizing, McGregor teaches that the use of microspheres "alone or unadhered" to any binder is highly desirable, while Chenoweth et al. is solely limited to a binder and fails to mention any microspheres. A skilled artisan reviewing the teachings of McGregor would thus be discouraged from providing microspheres in the product of Chenoweth et al. In proposing that it would be

"obvious" to combine the features of these references, the Examiner completely ignores their divergent teachings, which would actually lead a skilled artisan away from the combination. See, e.g. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be . . . led in a direction divergent from the path that was taken by the applicant."). Such a "teaching away" has long been considered inimical to a finding of obviousness. See *KSR Int'l Co v. Teleflex, Inc.*, 127 S.Ct. 1727, 1742 (2007) (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Accordingly, Applicant submits that upon considering the teachings of the references "as a whole," the conclusion is inescapable that their teachings would not be combined, and a *prima facie* case of obviousness is therefore lacking.

Claims 18-19 and 22-23 refer to a surfacing veil wherein the outer polymer annulus comprises a low melt copolymer polypropylene or polyethylene. The Examiner admits that these materials are not mentioned anywhere in Chenoweth et al., but cites to U.S. Patent No. 5,840,637 to Denton et al. as showing that "these materials are equivalent structures known in the art."

First of all, Applicant respectfully submits that this is not the proper analysis, since there is absolutely no reason, either in the applied art or otherwise identified by the Examiner, to combine the teachings of these references to arrive at the claimed inventions. Secondly, simply because Denton et al. provides a listing of various types of bicomponent fibers does not mean that they are all "equivalents." Accordingly, a *prima facie* case of obviousness is lacking with respect to claims 18 and 19, as well as for claim 23 (which also requires that the outer polymer annulus recited in claim 1 comprise a low melt copolymer polypropylene).

In summary, none of the pending claims are anticipated or rendered obvious in view of Chenoweth et al. or the other cited references, so the rejections should be withdrawn and all claims formally allowed. Upon careful review and consideration, it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited to avoid the need for bringing this matter before the Board. Authorization is given to charge any fees required to Deposit Account No. 50-0568 in connection with this Amendment.

Respectfully submitted,

By:  10/16/07

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